SnowEx WebEx Community Conference Call – Meeting Minutes

Date: **Wednesday March 9, 2016**
Time: **1:00 PM ~ 3:00 PM Eastern**

The meeting minutes were written by Jessica Lundquist (jdlund@uw.edu). Contact her directly if there are any questions.

Participants are listed in a separate page.

I. **Summary:** Ed Kim presented overview slides from planning work that has been going on to prepare for a snow field campaign to take place in winter 2016-17. These slides are being posted, and so information on those slides will not be repeated here but only mentioned at a very high level. Rather, these minutes will focus on action items and discussion items raised during the WebEx.
   a. SnowEx will focus on how current remote sensing technology works to quantify snow mass (e.g., how much and where) and energetics (e.g., how fast melting) in a forested area.
   b. A fall pre-field campaign in Oct-Nov 2016 will be needed for snow-off Lidar and potentially for radar (note that Chris Derksen says the snow-off radar is likely not necessary).
   c. A Feb-March 2017 field campaign is expected to have two aircraft flying a microwave sensor, a radar, a Lidar, and a VIS/IR sensor, in conjunction with ground measurements.
   d. The goal is to see how well instruments/measurement-techniques work together and when and where they break.

II. **Action Items**:
   a. Noah Molotch and Chris Crawford have developed a list of potential **field sites**, with specific qualifying criteria, for SnowEx. Eastern, Western US, Alaska, and Canadian sites are tried to be equally reviewed. They still need more community input:
      i. Check out the WebEx slides and the tables available here: http://neptune.gsfc.nasa.gov/hsb/index.php?section=325
      ii. If you can eliminate a site, or provide extra information about a site, or have a site to add, please send an e-mail to Noah (noah.molotch@colorado.edu) and Chris (christopher.j.crawford@nasa.gov).
      iii. If you are willing to be a site ambassador for a site or a region, providing local knowledge and helping to coordinate the ground team logistics, please send an e-mail to Noah and Chris.
      iv. As suggested by Anne Nolin, if you have thoughts about specific combinations of sites, or about the importance of specific criteria for sites, please send those thought to Noah and Chris.

b. Ed Kim and his team have developed a list of **instruments and aircraft** those instruments can fly on, but they need more community input, particularly from those people with instrument expertise:
    i. The slides contain some information on the instruments considered and further details will be added to the snow.nasa.gov website.
    ii. Suggested by Chris Derksen: By considering CoReH2O, instead of 2 central times (off and on snow) in winter season, monthly airborne and ground samplings would be more beneficial to monitor a time change in snow evolutions.
    iii. Please e-mail Ed Kim (edward.j.kim@nasa.gov) and cc Jessica Lundquist (jdlund@uw.edu) if you have thoughts about instruments/aircraft that should be considered or sampling strategies that should be employed (e.g., Chris Derksen recommended a smaller area with repeat sampling in time through the snow season).
c. An in person meeting will be held in Seattle on March 29, 30, 31.
    i. See http://iswgr.org/content/fourth-workshop-snow-remote-sensing for details, and
    ii. Fill out the forms here https://catalyst.uw.edu/webq/survey/jdlund/292655 if you plan to come. We need final head counts by March 18.

III. Discussion Items

a. Science Questions
    i. Tom Painter, Anne Nolin, Marco Tedesco, and Simon Yueh all expressed concerns about the need for science questions to drive the SnowEx planning as well as for input to the Decadal Survey.
    ii. Anne mentioned that there's a key water balance question and a key energy balance question. These two key questions were written on Slide 6 of Ed Kim's presentation.
    iii. Ed agreed to the importance of the science questions, but emphasized that logistics such as flight and instrument arrangements and reservations are very time-sensitive.
b. New vs. Established Instrumentation and techniques.
    i. Tom Painter raised the question of deciding between established instrumentation vs. the need to invest in new instrument development. The choice between these two should be driven by science question priorities.
    ii. Simon Yueh raised the issue of new radar measurement techniques (e.g., conical scanning and side-looking to maximize sensor coverages and spatial resolutions).
    iii. Related to the above, there was some general concern that newer ideas, instruments, and techniques were being overlooked.

c. Open Process
    i. Marco Tedesco requested meeting minutes. These are being provided here.
    ii. Marco also requested more information about the process that led from the earlier iSWGR meetings and the SnowEx plan as it now stands.
    iii. Community survey to cover all the key issues raised during the WebEx has been generated (https://catalyst.uw.edu/webq/survey/jdlund/297866). Please provide input before the Seattle meeting.